

## TOPIC: Heat Related Injuries & Concerns

Hot summer weather poses additional challenges those who work outside. A major concern are heat related injuries that occur when temperatures rise into the 80s and 90s. However, lower temperatures may also cause concern for those performing strenuous activities, such as firefighters and highway workers. Supervisors need to be mindful of high temperatures and the work being performed to ensure the well being of their workers. Recreation supervisors and those overseeing parks, beaches, pools, ball fields and other facilities where their staff and children or adults are exercising in the summer heat need to be watchful for heat related injuries. Training is essential to provide first aid when heat related injuries occur.

Everyone is at risk when temperatures rise above 90 degrees, but the elderly and very young are most susceptible to heat and heat-related illnesses. Heat-related illnesses can cause serious injury and even death if untreated. Signs of heat-related illnesses include nausea, dizziness, flushed or pale skin, heavy sweating and headaches. Victims of heat-related illness should be moved to a cool place, given cool water to drink and ice packs or cool wet cloths should be applied to the skin. If a victim refuses water, vomits, or loses consciousness, call 9-1-1 immediately.

### Know What Heat-Related Terms Mean:

- **Heat Wave:** More than 48 hours of high heat (90° F or higher) and high humidity (80 % relative humidity or higher) are expected.
- **Heat Index:** A number in degrees Fahrenheit that tells how hot it really feels with the heat and humidity. Exposure to full sunshine can increase the heat index by 15° F.
- **Dehydration:** A major contributing factor to heat related injuries. Under normal conditions the body loses about one gallon of fluid a day through sweating, breathing, and going to the bathroom. When you engage in strenuous activity the amount of fluid loss greatly increases. If you get into a dehydrated state you are weak, dizzy, profoundly exhausted and can have problems thinking clearly.
- **Heat cramps:** Heat cramps are muscular pains and spasms due to heavy exertion. They usually involve the abdominal muscles or the legs. It is generally thought that the loss of water and salt from heavy sweating causes the cramps.
- **Heat Exhaustion:** Less dangerous than heat stroke. It typically occurs when people exercise heavily or work in a warm, humid place where body fluids are lost through heavy sweating.
- **Fluid loss:** Causes blood flow to decrease in the vital organs, reducing in a form of shock. With heat exhaustion, sweat does not evaporate as it should, possibly because of high humidity or too many layers of clothing. As a result, the body is not cooled properly. Signals include cool, moist, pale, flushed or red skin; heavy sweating; headache; nausea or vomiting; dizziness; and exhaustion. Body temperature will be near normal.
- **Heat Stroke:** Also known as sunstroke, heat stroke is life-threatening. The victim's temperature control system, which produces sweating to cool the body, stops working. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly. Signals include hot, red and dry skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing. Body temperature can be very high--sometimes as high as 105°F.

### Preventing Heat-Related Illness:

- **Dress for the heat.** Wear lightweight, light-colored clothing. Light colors will reflect away some of the sun's energy. It is also a good idea to wear hats. While shorts may seem beneficial too, be careful not to sacrifice the safety afforded by long pants. There is no evidence to support that shorts help to lower body temperature.
- **Drink water.** Carry water or juice with you and drink continuously even if you do not feel thirsty.

Avoid caffeine, which dehydrate the body. Avoid using salt tablets unless directed to do so by a physician.

- **Eat small meals and eat more often.** Avoid high-protein foods, which increase metabolic heat.
- **Slow down.** Avoid strenuous activity. If you must do strenuous activity, do it during the coolest part of the day, which is usually in the morning between 4 and 7 a.m. Plan work schedules accordingly.
- **Strenuous activity.** Ensure that rehabilitation facilities are established for firefighters working in heavy turnout gear. Supervisors closely monitor the condition of each person working under high heat conditions.
- **Monitor athletic participants.** Coaches and recreation supervisors should be conscious of high temperatures and plan activities to ensure that heat related injuries do not occur. They should also be prepared to rapidly respond to signs of heat emergencies. Scheduling water and rest breaks is essential.

#### **General Care for Heat Emergencies:**

1. **Cool the Body**
2. **Give Fluids**
3. **Minimize Shock**

For heat cramps or heat exhaustion: Get the person to a cooler place and have him or her rest in a comfortable position. If the person is fully awake and alert, give a half glass of cool water every 15 minutes. Do not let him or her drink too quickly. Do not give liquids with alcohol or caffeine in them, as they can make conditions worse. Remove or loosen tight clothing and apply cool, wet cloths such as towels or wet sheets. Call 9-1-1 if the person refuses water, vomits or loses consciousness.

For heat stroke: Heat stroke is a life-threatening situation! Help is needed fast. Call 9-1-1. Do not give victim anything to eat or drink if they are not fully alert. Move the person to a cooler place. Quickly cool the body. Wrap wet sheets around the body and fan it. If you have ice packs or cold packs, wrap them in a cloth and place them on each of the victim's wrists and ankles, in the armpits and on the neck to cool the large blood vessels. (Do not use rubbing alcohol because it closes the skin's pores and prevents heat loss.) Watch for signals of breathing problems and make sure the airway is clear. Keep the person lying down.

#### **Additional Information:**

American Red Cross, [www.redcross.org](http://www.redcross.org)

US Occupational Safety and Health Administration, [www.osha.gov](http://www.osha.gov)

*Please contact your Primex<sup>3</sup> Risk Management Services Consultant at 800-698-2364, if you have questions or need assistance regarding worker or participant protection from heat related injuries.*